

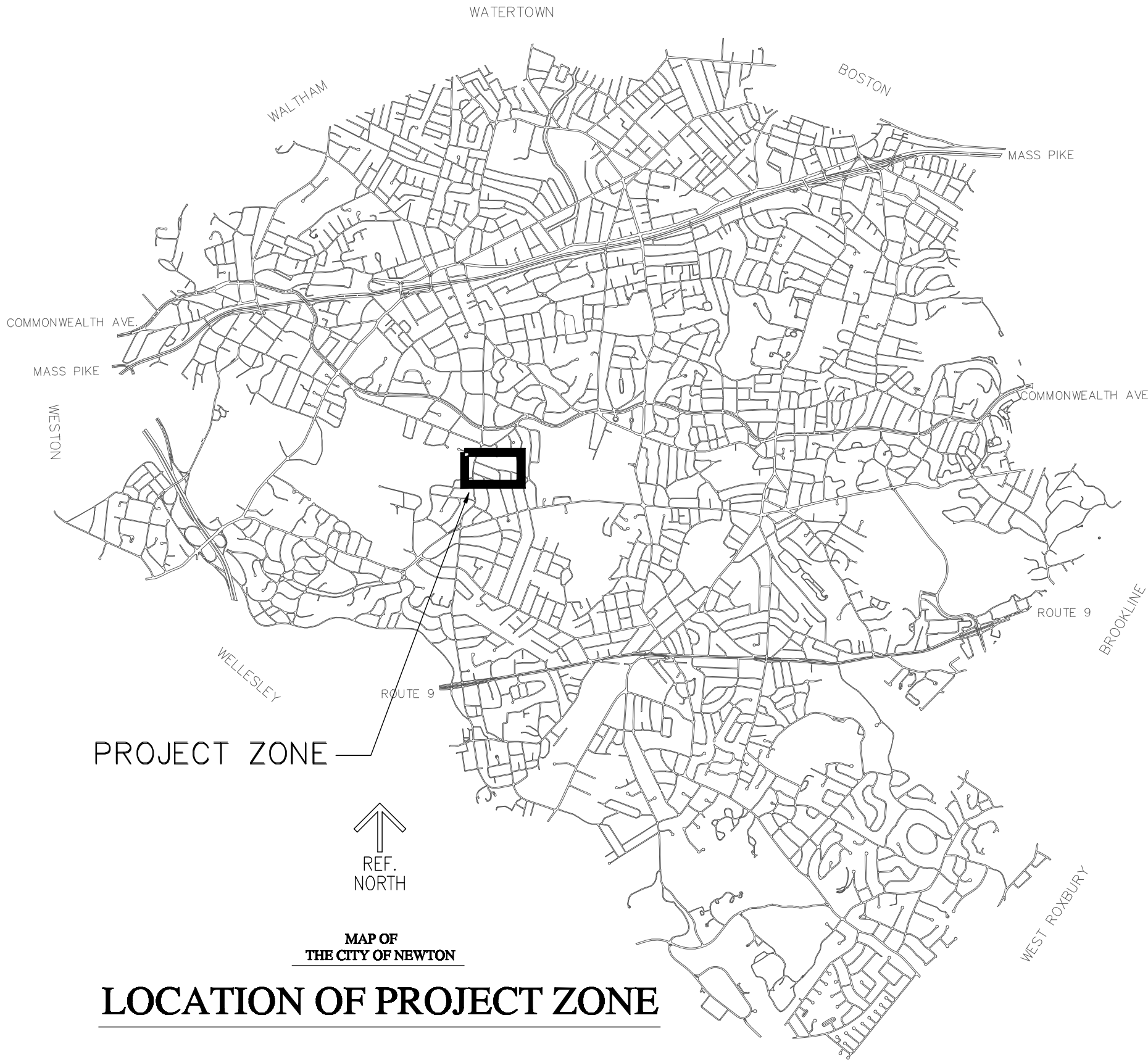


GORDON RD. SEWER REPLACEMENT  
APPURTENANT WORK

DESIGNED BY: [Signature]  
DRAWN BY: [Signature]  
CHECKED BY: [Signature]  
APPROVED BY: [Signature]

PROCESS AND CONSTRUCTION NOTES:

1. THE CONTRACTOR IS REQUIRED TO PROVIDE A SUPERINTENDENT OF OPERATIONS, A QUALIFIED INDIVIDUAL WHO WILL BE ON-SITE AT ALL TIMES TO ADDRESS THE CRITICAL NEEDS OF THE PROJECT. IN ADDITION, A 7 DAY/24 HOUR PHONE NUMBER MUST BE LISTED WITH THE CITY TO ADDRESS ALL PROJECT BUSINESS AND/OR EMERGENCY CALLS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING CONDITIONS AND IS OBLIGATED TO IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES OF PLAN VERSUS ACTUAL FIELD CONDITIONS, AS WELL AS ANY SUBSTANTIAL DIFFERENCES IN ESTIMATED QUANTITIES.
3. PRIOR TO MOBILIZATION, THE CONTRACTOR IS TO COORDINATE WITH THE WATER DEPT. AND THE ENGINEER, AND IS TO LOCATE, UNCOVER, BLOW-OUT, AND DETERMINE BOTH THE LOCATION AND SERVICIBILITY OF ALL EXISTING GATE VALVES AND/OR HYDRANTS WHICH MAY HAVE TO BE ACCESSED DURING THE PERFORMANCE OF THE WORK. OPERATION OF THE GATE VALVES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND IS TO BE PERFORMED UNDER THE DIRECTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL MAKE A VIDEO AND/OR PHOTOGRAPHIC RECORD OF EXISTING CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND/OR AS THE ACTIVITIES PROGRESS. THE CONTRACTOR IS RESPONSIBLE FOR DEFENDING AND/OR RESPONDING TO ALL DAMAGE CLAIMS. A COPY OF THE VIDEO AND ANY SUPPLEMENTAL PHOTOGRAPHS SHALL BE SUBMITTED TO THE CITY ENGINEER UPON REQUEST.
5. THE UNDERGROUND PIPES & STRUCTURES SHOWN ON THESE PLANS ARE TAKEN FROM THE BEST AVAILABLE DEPARTMENTAL SOURCES. THE CITY DOES NOT GUARANTEE EITHER THE ACCURACY, OR THE COMPLETENESS, OF THIS INFORMATION. THE CONTRACTOR MUST MAKE HIS OWN INVESTIGATIONS OF THE AREA(S) PRIOR TO MOBILIZATION.
6. THE CONTRACTOR SHALL CONTACT DIG SAFE @ 1-888-344-7233 AND SHALL NOT OCCUPY ANY AREA(S) UNTIL THE AUTHORIZATION DATE HAS BEEN ATTAINED. FOR FURTHER UTILITY SUPPORT, AND EMERGENCY RESPONSE REQUESTS, THE CONTRACTOR IS ADVISED TO CONTACT AND ESTABLISH PROTOCOL WITH ALL ORGANIZATIONS HAVING UTILITIES IN THE PUBLIC WAY INCLUSIVE OF ; KEYSpan GAS, N-STAR ELECTRIC, VERIZON, AT&T CABLE, RCN CABLE, NEWTON WATER, NEWTON SEWER & DRAIN.
7. ANY UTILITY RELOCATIONS, AND/OR UTILITY ISSUES, ARE TO BE DIRECTLY ADDRESSED AND COORDINATED BY THE CONTRACTOR WITH THE RESPECTIVE UTILITY COMPANY AND ANY ADJOINING CITY OR TOWN WHENEVER APPLICABLE.
8. THE FINAL DETERMINATION OF THE SCOPE OF PROJECT, AS WELL AS THE PROJECT LIMIT(S), SHALL BE ESTABLISHED IN THE FIELD BY THE ENGINEER.
9. THE CONTRACTOR IS REQUIRED TO TAKE AS-BUILT TIES AS THE WORK PROGRESSES. THIS ACTIVITY IS TO TAKE PLACE UNDER THE DIRECT SUPERVISION OF THE ENGINEER AND ALL RECORDS ARE TO BE SUBMITTED ON A DAILY BASIS. IN ADDITION, THE CONTRACTOR IS TO SUBMIT A FINAL AS-BUILT PLAN ON A FORMAT ACCEPTABLE TO THE ENGINEER.
10. SEWER MAINS ARE TO BE INSTALLED WITH LASER GUIDANCE OR OTHERWISE BY THE USE OF A TRANSIT/LEVEL, AND THE CONTRACTOR IS FURTHER RESPONSIBLE FOR THE LAYOUT, LINE AND GRADE OF ALL OTHER MANHOLES, PIPES AND APPURTENANCES. ANY PROPOSED SEWER HOUSE CONNECTIONS (SHC) WHICH ARE SHOWN ON THESE PLANS ARE SUGGESTED LOCATIONS ONLY. THE EXACT LAYOUT OF THESE LINES ARE TO BE DETERMINED IN THE FIELD IN ACCORDANCE WITH FUTURE PLUMBING REQUIREMENTS OF THE CITY AND THE BUILDING OWNER.
11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH U.S OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA) STANDARDS, AND MASSACHUSETTS DEPARTMENT OF LABOR OCCUPATIONAL SAFETY STANDARDS IN THE PERFORMANCE OF THIS WORK.
12. THE CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY ASPECTS OF THIS PROJECT, AND COMPLIANCE WITH THE MOST CURRENT OSHA REGULATIONS.
13. ALL EXCESS EXCAVATION MATERIAL AND/OR WASTE ITEMS, INCLUSIVE OF SEWERAGE SATURATED SOILS, OF ANY TYPE OR MATERIAL, ARE TO BE DISPOSED OF AT A LEGAL DUMPING SITE AT THE CONTRACTORS OWN EXPENSE. NO DISPOSAL SITE SHALL BE PROVIDED BY THE CITY.
14. ALL SITE GENERATED DEBRIS AND REFUSE IS TO BE REMOVED FROM THE SITE ON A DAILY BASIS. AT NO TIME SHALL PASSAGE OF ANY SIDEWALK AND/OR DRIVEWAY BE IMPEDED/BLOCKED BY STOCKPILED MATERIAL(S). THE STAGING AND STOCKPILING AREA IS TO BE KEPT IN A CONDITION ACCEPTABLE TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY ASPECTS RELATIVE TO THIS AREA.
15. ALL EXCAVATIONS ARE TO BE BACKFILLED IN LIFTS, WITH EACH SUCCESSIVE LIFT BEING COMPACTED ONLY WITH APPROVED 'JUMPING-JACK' TYPE COMPACTORS AND/OR PNEUMATICALLY POWERED TAMPING BITS, UNTIL SUCH TIME AS THE OPTIMUM COMPACTION REQUIREMENTS ARE OBTAINED. THIS IS STRICTLY ENFORCED TO ENSURE LONG-TERM STRUCTURAL INTEGRITY OF THE ROADWAY SYSTEM.
16. AREAS DISTURBED BEYOND THE LIMIT OF THE CONTRACT SHALL BE REPAIRED AND/OR RESTORED AT THE CONTRACTORS OWN EXPENSE AND LEFT IN A CONDITION COMPARABLE TO THE ORIGINAL, ALL OF WHICH IS SUBJECT TO THE ENGINEERS APPROVAL.
17. ANY DAMAGE TO THE EXISTING SEWER, DRAIN AND/OR WATER SYSTEMS WHICH IS NOT SPECIFICALLY DUE TO THE REMOVAL OF IMPACTED ROCK, IS TO BE REPAIRED AND/OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE UNLESS OTHERWISE NOTED. IMPACTED ROCK CONDITIONS ARE TO BE VERIFIED BY THE ENGINEER PRIOR TO ROCK REMOVAL.
18. ● ALL TRENCHES ARE TO BE BACKFILLED AT THE END OF THE WORKDAY UNLESS PROPERLY PLATED. ANY PLATES UTILIZED UNDER THIS CONTRACT ARE TO BE RECESSED TO PREVENT DISLODMENT DURING POTENTIAL SNOW-CLEARING OPERATIONS. ● IN THE EVENT THE CONTRACTOR'S OPERATIONS CAUSE ICING CONDITIONS TO OCCUR THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEICING THE AFFECTED ROADWAY AND/OR SIDEWALK AREAS.
19. ALL 'SHORT-TERM' STEEL TRENCH PLATES, (UP TO FIVE CALENDAR DAYS OF USE), ARE TO BE SECURED IN SUCH A MANNER SO AS TO PREVENT MOVEMENT AND/OR 'RATTLING'. ALL 'LONG-TERM' PLATES ARE TO BE RECESSED INTO THE EXISTING ROADWAY.
20. THE CONTRACTOR IS TO MAINTAIN AND/OR PROVIDE EMERGENCY VEHICLE ACCESS THROUGHOUT EACH PROJECT AREA. IN ADDITION, NO TRAFFIC DELAY IS TO EXCEED FIVE MINUTES IN DURATION ON ANY ARTERIAL ROAD. ALL SECONDARY ROADS MUST BE APPROPRIATELY DETOURED, MARKED, OR ADDITIONALLY SIGNED TO PREVENT DELAYS AND/OR CONFUSION.
21. IF DETOURING IS ALLOWED OR DIRECTED BY THE ENGINEER ALL SECONDARY ROADS MUST BE APPROPRIATELY DETOURED, MARKED, OR ADDITIONALLY SIGNED TO PREVENT DELAYS AND/OR DIRECTIONAL CONFUSION.
22. ALL BITUMINOUS CONCRETE APPLIED TO THE ROADWAY SHALL ONLY BE APPLIED IN BRIGHT SUNSHINE OR PARTLY CLOUDY WEATHER WITHOUT THE THREAT OF RAIN. THE CONTRACTOR IS NOT TO SCHEDULE BITUMINOUS ROADWAY APPLICATION UNLESS SUCH FAVORABLE WEATHER CONDITIONS ARE PROFESSIONALLY FORECAST BY A RECOGNIZED WEATHER AGENCY. FURTHER, NO BITUMINOUS CONCRETE SHALL BE APPLIED UPON A RESIDUALLY WET SURFACE, AND NO BITUMINOUS CONCRETE WHICH HAS BEEN PRE-MATURELY COOLED BY RAIN, EITHER ON THE TRUCK OR ON THE ROADWAY, WILL BE ACCEPTED.
23. HOURS OF OPERATIONS ARE SET BY LAW. NO MACHINES OR EQUIPMENT ARE TO BE ACTIVATED BEFORE 7:00 A.M. & NO WORK IS TO EXTEND BEYOND 4:30 P.M.. NO WEEKEND OR HOLIDAY WORK, IS ALLOWED WITHOUT SPECIAL PERMISSION.
24. FOR FURTHER DETAILS NOT SHOWN ON THESE PLANS SEE CITY OF NEWTON GENERAL CONSTRUCTION DETAILS @ [www.ci.newton.ma.us/dpw/engin/General Construction Detail.pdf](http://www.ci.newton.ma.us/dpw/engin/General%20Construction%20Detail.pdf)
25. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING, COMMUNICATING DIRECTLY WITH, AND SUBSEQUENTLY ADDRESSING THE NEEDS OF THE VISUALLY IMPAIRED, AND/OR THE PHYSICALLY CHALLENGED WHO RESIDE IN OR ABOUT THE PROJECT ZONE.
26. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION, POSTING AND SUBSEQUENT REMOVAL OF ALL TEMPORARY PARKING BANS. SIGNS SHALL NOT BE POSTED ON TREES. THE CONTRACTOR IS TO APPRISE THE CITY OF NEWTON TRAFFIC DIVISION OF EACH POSTING.
27. THE CONTRACTOR IS TO EXERCISE DUE CARE WHEN WORKING IN THE PROXIMITY OF STREET TREES. NO SCUFFING OF THE TRUNK WILL BE ALLOWED. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR TREE TRUNK AND/OR EXCESSIVE ROOT SYSTEM DAMAGE AND SHALL REMOVE AND REPLACE, AT HIS OWN EXPENSE, ANY TREE WHICH IS CARELESSLY DAMAGED. ● TREE PROTECTION MEASURES WILL BE ORDERED IF TREE TRUNK DAMAGE IS IN EVIDENCE. THE COST OF THESE PROTECTIVE MEASURES ARE TO BE BORNE BY THE CONTRACTOR. PROTECTIVE MEASURES SHALL BE PERFORMED IN A MANNER ACCEPTABLE TO THE ENGINEER. ● EXISTING TREE ROOTS ARE NOT TO BE DISTURBED UNLESS AUTHORIZED BY THE ENGINEER AND/OR THE SUPERINTENDENT OF FORESTRY/TREE WARDEN. THE CONTRACTOR IS RESPONSIBLE FOR CAREFULLY EXCAVATING IN AND ABOUT EXISTING ROOT SYSTEMS. ● NO TREES ARE TO BE REMOVED, NOR SHALL ANY TAP ROOTS LARGER THAN 2" IN DIAMETER, BE REMOVED UNTIL SUCH WORK HAS BEEN DIRECTLY AUTHORIZED BY THE CITY OF NEWTON TREE WARDEN OR HIS DESIGNEE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THIS WORK.
28. POLICE DETAILS ARE TO BE COORDINATED BY THE CONTRACTOR.
29. ● THIS IS POTENTIALLY A COLD-WEATHER PROJECT, THEREFORE;
  - \* THE CONTRACTOR SHALL EXERCISE EXTREME & SPECIAL CARE WHEN STORING, HANDLING & INSTALLING ANY SDR 35 PVC PIPE OR FITTING.
  - \* THE BEDDING & BACKFILLING OF THE PIPE WITH CRUSHED STONE SHALL BE DONE WITH EXTREME CARE.
  - \* THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SNOW CLEARING OPERATIONS WITHIN THE PROJECT ZONE DURING THE INSTALLATION PROCESS'.
  - \* THE CONTRACTOR SHALL NOT USE FROZEN MATERIAL TO BACKFILL THE TRENCH
  - \* THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REPAIR OF ANY SETTLEMENT(S) AND/OR PATCH FAILURES (EITHER TEMPORARY OR PERMANENT) WHICH MAY OCCUR
  - \* THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING AND/OR ELIMINATING ICING CONDITIONS WHICH OCCUR AS A RESULT OF HIS OPERATIONS
  - \* STEEL PLATES FOR OVERNIGHT USE SHALL BE ALLOWED ONLY IF FAVORABLE WEATHER CONDITIONS ARE FORECAST. HOWEVER ALL PLATES ARE TO BE RECESSED AND PROTECTED FROM SNOW PLOW INTERFERENCE AT ALL TIMES. THE USE OF PLATES SHALL BE DETERMINED ON A DAY-TO-DAY BASIS.



LOCATION OF PROJECT ZONE

NOTICE:

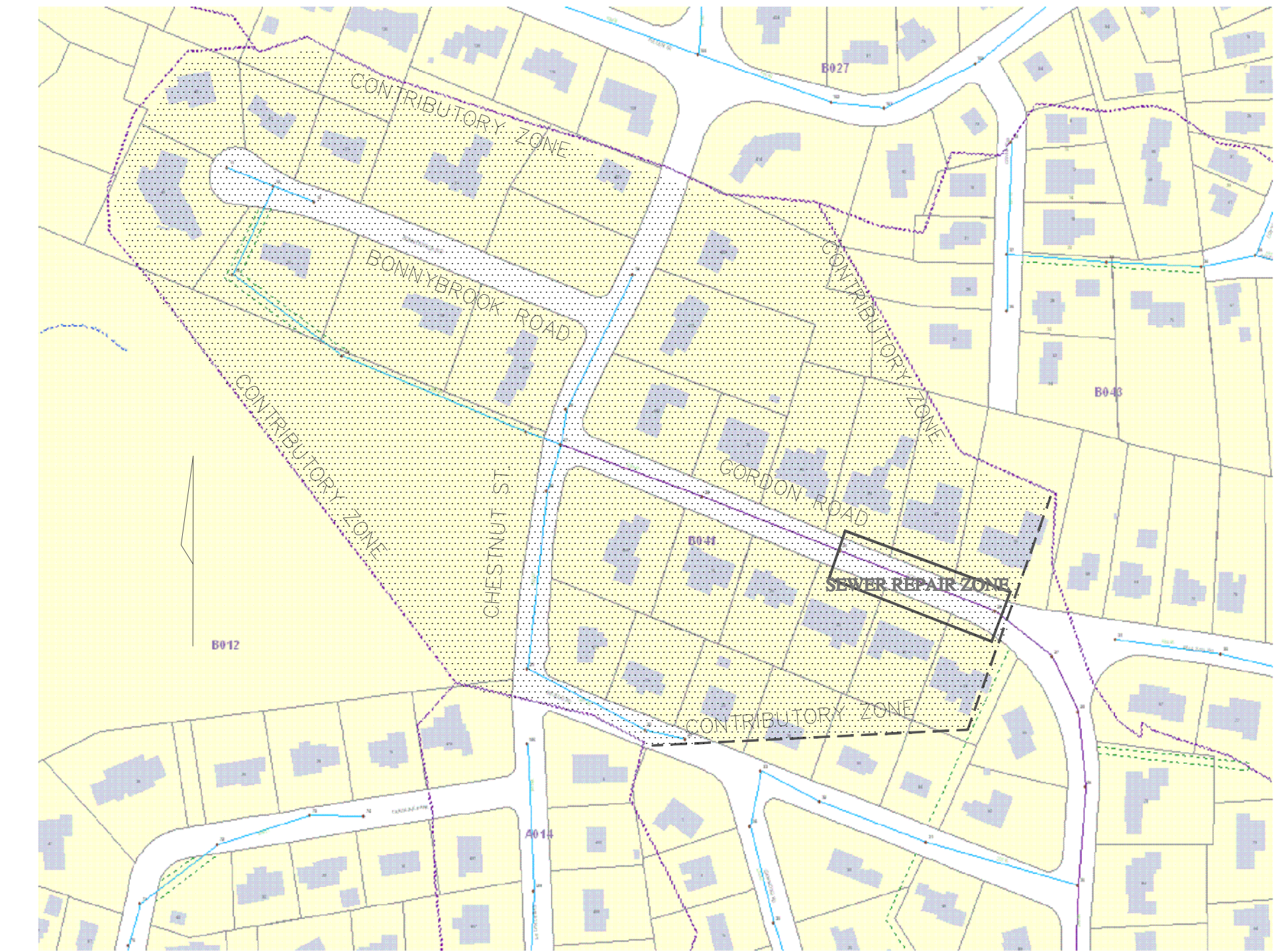
THE WORK UNDER THIS CONTRACT AFFECTS THE CITY'S SEWER OPERATIONS ON A DAY-TO-DAY BASIS, THEREFORE THE SUCCESSFUL BIDDER MUST BE READY, WILLING & ABLE TO BEGIN CONSTRUCTION IMMEDIATELY ON THE ISSUANCE OF A 'NOTICE TO PROCEED'.

TO THAT END THE CONTRACTOR WILL BE REQUIRED TO SUBMIT ALL NECESSARY ADMINISTRATIVE DOCUMENTS TO THE CITY PURCHASING AGENT TO ENSURE THAT THE PROCUREMENT OF MATERIALS, AND THE WORK, CAN COMMENCE EXPEDITIOUSLY.

CITY OF NEWTON  
CONTRACT PLAN  
FOR THE  
REPLACEMENT  
OF A PORTION OF THE  
GORDON ROAD SEWER  
AND  
DRAIN

SCALE AS NOTED SEPTEMBER 16, 2011

LOUIS M. TAVERNA, P.E.  
CITY ENGINEER



A horizontal number line with tick marks at intervals of 20, labeled 0, 40, 80, 120, and 160.

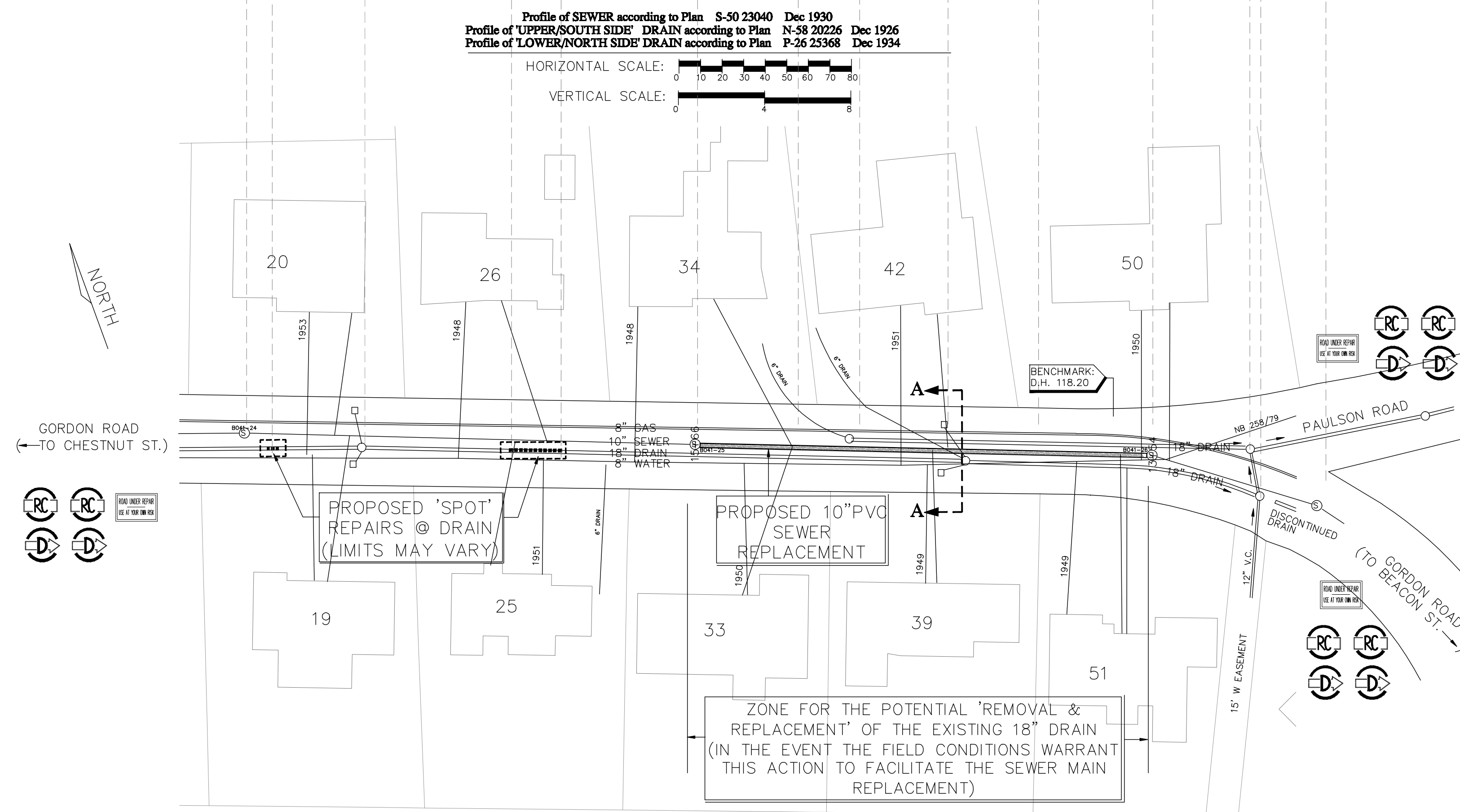
- THE CONTRACTOR SHALL PROVIDE A CONTINUOUS UNINTERRUPTED FLOW OF THE SEWER MAIN AND THE SERVICE CONNECTIONS DURING THE COURSE OF THESE OPERATIONS. THE PUMPING MEANS AND METHODS SHALL CONSIST OF AN APPROVED "SILENT-PAC" SELF-CONTAINED PORTABLE PUMP WHICH SHALL BE EQUIPPED WITH A SINGLE DEDICATED LEAK-FREE SUCTION AND DISCHARGE LINE, OF AN ADEQUATE SIZE, TO FULLY PREVENT THE BACK-UP OF SEWERAGE WITHIN THE EXISTING (UPSTREAM) SEWER SYSTEM. FURTHER, THE LOCATION OF THE PUMP & BYPASS PIPES SHALL BE LOCATED ON-SITE IN SUCH A MANNER SO THAT IT IS FULLY PROTECTED & NOT SUBJECT TO DAMAGE, EITHER BY THE VARIOUS PHASES OF THE CONSTRUCTION PROCESS OR BY ANY NEIGHBORHOOD ACTIVITIES WHILE ALSO ENSURING THAT THE TEMPORARY BYPASS SYSTEM DOES NOT IN ANY MANNER EITHER OBSTRUCT OR INTERFERE WITH PEDESTRIAN TRAFFIC TO THAT END THE CONTRACTOR SHALL WORK CLOSELY WITH THE ENGINEER TO RESOLVE OR MINIMIZE ANY ISSUES RELATED TO THESE DEPLOYMENTS.

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| <p>THE CONTRACTOR SHALL RECESS THE SEWER BYPASS LINE BELOW THE ROADWAY PAVEMENT AT ALL DRAINAGE OPENINGS, HATCHES, RAMP, STREET CROSSINGS, &amp; CROSSINGS TO SMH PORTS.</p> | <p>IN THE EVENT THE ENGINEER CONCURS THAT ANY PORTION OF THE MAIN DRAIN SYSTEM MUST BE REMOVED AND REPLACED TO EXPEDITE THE SEWER WORK THEN SUCH WORK SHALL BE PAID FOR UNDER THE APPLICABLE 18' DRAIN RELATED ITEMS OF THIS CONTRACT. <u>HOWEVER THE CONTRACTOR IS CAUTIONED THAT THE FIRST PRIORITY IS TO PROTECT AND PRESERVE THE EXISTING DRAIN SYSTEM FROM DAMAGE, AND/OR DISRUPTION, DURING THE COURSE OF THESE OPERATIONS.</u></p> |
|--|---|

AT DAYS END THE CONTRACTOR SHALL PROVIDE CONTINUOUS UNINTERRUPTED FLOW OF THE DRAIN SYSTEM.

WATER SERVICES SHALL REMAIN UNDISTURBED WHENEVER POSSIBLE HOWEVER IN THE EVENT THAT THEY MUST BE REMOVED IN THE PERFORMANCE OF THIS WORK THEN THEY SHALL BE REPLACED TO THE LIMITS, AND IN ACCORDANCE, WITH THE DIRECTIVES OF THE ENGINEER, WITH SUCH WORK BEING PAID FOR UNDER THE APPLICABLE WATER RELATED ITEMS OF THIS CONTRACT. FURTHER, DISCONNECTED (AND TEMPORARILY SEALED) WATER SERVICES SHALL BE REACTIVATED AT DAYS END AND SHALL BE FULLY FLUSHED, INITIALLY AT THE DISCONNECTION POINT & AGAIN AT THE SILL COCK, BEFORE BEING PLACED BACK INTO SERVICE.

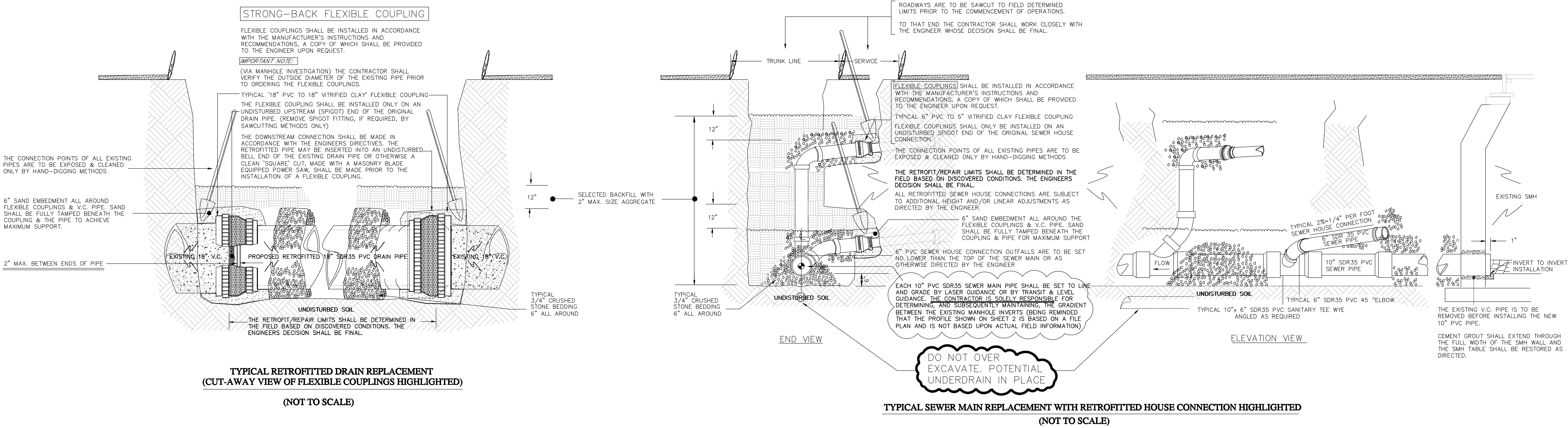
ROADWAYS ARE TO BE SAWCUT TO LIMITS DETERMINED IN THE FIELD BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF OPERATIONS.



- THE UNDERGROUND PIPES & STRUCTURES SHOWN ON THESE PLANS ARE TAKEN FROM DEPARTMENTAL SOURCES.
- THE CITY DOES NOT GUARANTEE EITHER THE ACCURACY, OR THE COMPLETENESS OF THIS INFORMATION.
- THE CONTRACTOR MUST MAKE HIS OWN INVESTIGATIONS OF THE AREA(S) PRIOR TO PLACING HIS BID AND AS THE WORK COMMENCES.

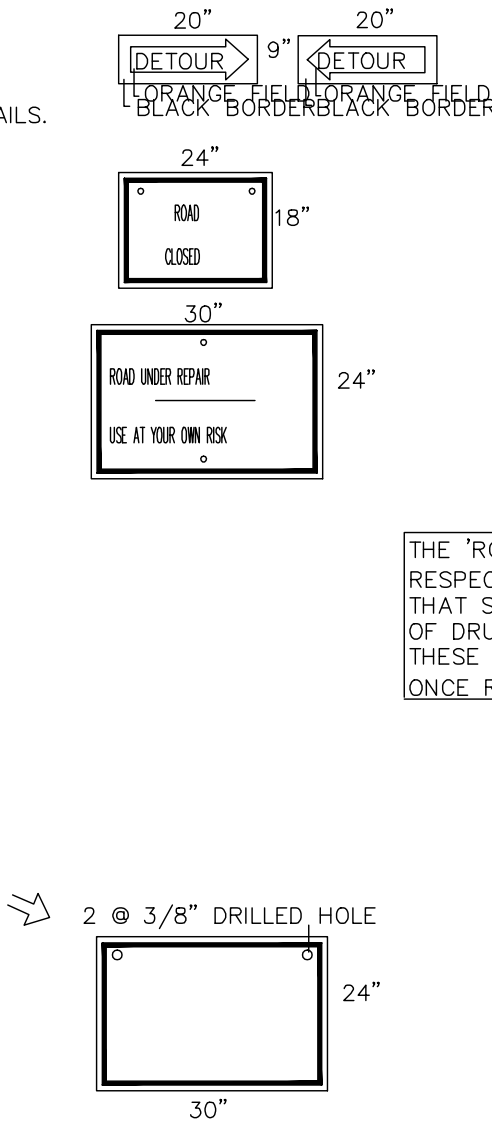
SCALE: 

THIS IS POTENTIALLY A COLD-WEATHER PROJECT. REFER TO NOTE No. 29 ON SHEET 1



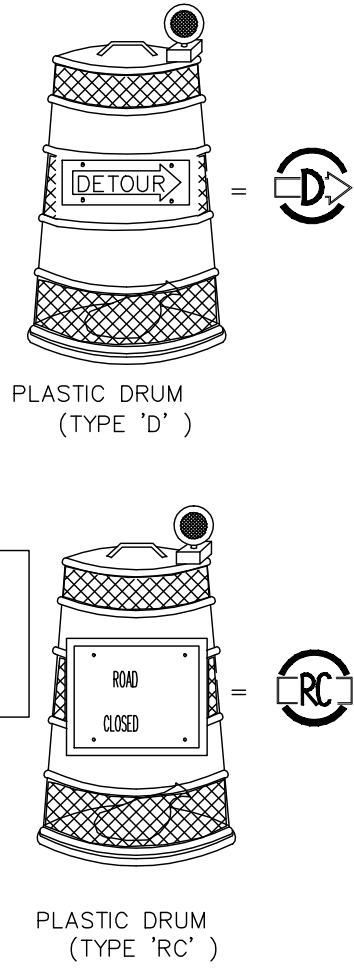
SIGN REQUIREMENTS & LEGEND:

- \* SIGNS ARE TO BE FIRMLY FASTENED TO THE RESPECTIVE SUPPORTS AND/OR DRUMS AND ARE TO COMPLY WITH THE DIRECTIVES OUTLINED IN THE GENERAL CONSTRUCTION DETAILS.
  - \* POST MOUNTED SIGNS ARE TO BE SET IN FULL VIEW WITH THE BOTTOM OF THE SIGN NOT LESS THAN 7' NOR MORE THAN 10' ABOVE THE ADJACENT GRADE.
  - \* SIGNS ARE TO BE PROFESSIONALLY MADE OF 3/4" EXTERIOR PLYWOOD. THE FIELD IS TO BE REFLECTORIZED ORANGE BEARING A BLACK LEGEND 6" IN HEIGHT AND A BLACK SOLID 1" BORDER SET 1 1/4" IN FROM THE EDGE.
  - \* ANY SIGN WHICH IS DAMAGED FOR ANY REASON DURING THE TERM OF THE PROJECT IS TO BE IMMEDIATELY REPLACED.
  - \* ANY MISSING SIGN SHALL REDUCE THE PAYMENT AT THE RATE OF THE PRO-RATED VALUE FOR THE LENGTH OF TIME THAT THE SIGN IS OUT OF SERVICE.
  - \* SIGNS AND SIGN POSTS ARE TO BE MOUNTED AND ESTABLISHED SO AS TO BE BOTH STURDY AND WIND RESISTANT. ONLY ADEQUATELY SIZED NUT, BOLT & WASHER FASTENERS SHALL BE USED. NO NAILS ARE TO BE USED TO FASTEN ANY SIGN, NOR SHALL ANY SIGN BE MOUNTED ON ANY TREE. THE SIGN LOCUS ON THESE PLANS REPRESENT THE MOST LIKELY LOCATIONS, HOWEVER, FINAL LOCATIONS AND/OR SUPPLEMENTAL SIGNS AND DRUMS SHALL BE LOCATED, RELOCATED, AND/OR PLACED AS THE OPERATIONAL PROCESS MAY NECESSITATE AND/OR AS DIRECTED BY THE ENGINEER.
  - \* SIGNS SHALL BE PLACED IN THE MOST CONSPICUOUS LOCATIONS AS A MEANS FOR BOTH VEHICULAR AND PEDESTRIAN WARNING, HOWEVER, IN NO CASE SHALL ANY SIGN IMPEDE THE SIGHT LINE NOR INTERFERE WITH EITHER PEDESTRIAN AND/OR VEHICULAR TRAFFIC.
- SPECIALTY SIGNS:
- \* SITE-MADE SIGNS: 'BLANKS' ARE TO HAND LETTERED ON SITE WITH EXTRA LARGE WATER PROOF PERMANENT FELT TIP MARKERS AND ARE TO BE WIRED TO BARRELS AND POSTED AS DIRECTED BY THE ENGINEER. THESE SIGNS ARE ONLY TO BE USED FOR MESSAGES WHICH ARE SITE SPECIFIC. AFTER EACH USE THE SIGN FIELD IS TO BE CLEANED WITH A SOLVENT AND PLACED AT THE READY.

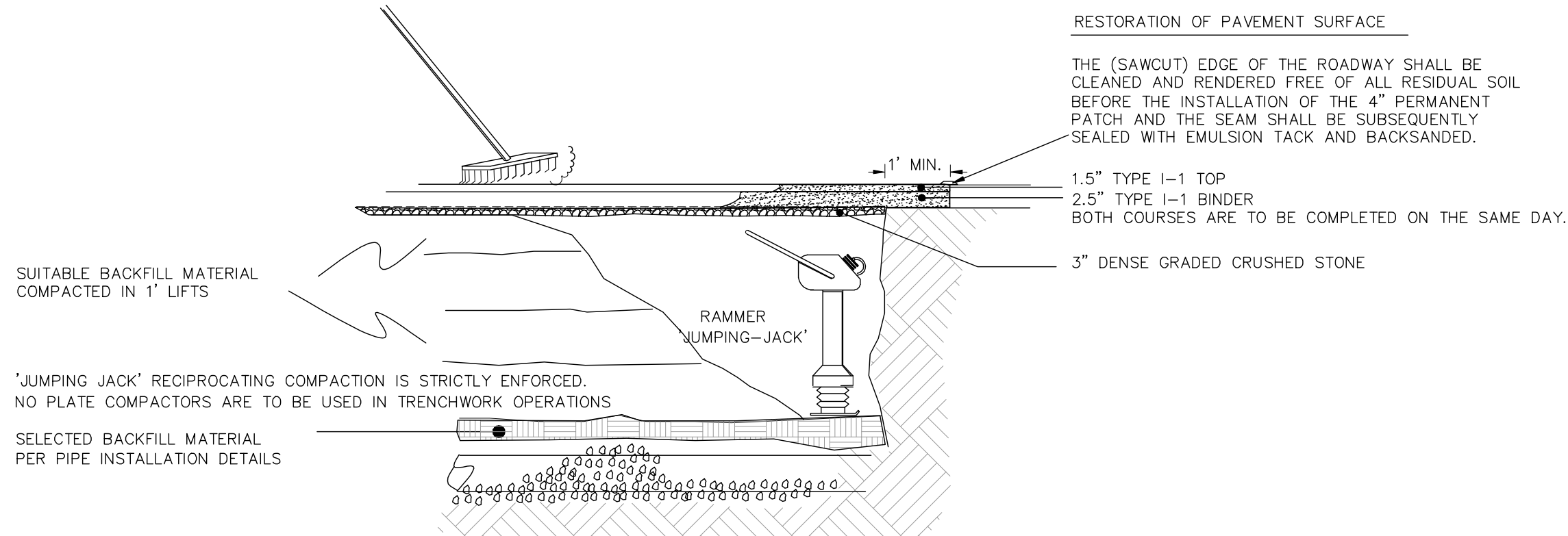


DRUM REQUIREMENTS:

- STANDARD (LOCUS NOT SHOWN. QUANTITY & LOCATIONS AS REQUIRED) 'RC' & 'D' TYPE (SEE ACCOMPANYING NOTES REGARDING THESE DEVICES)
- TO THE WRITTEN CONTRACT SPECIFICATIONS:
- \* THEY ARE TO BE PLASTIC DRUMS, COMPLYING WITH M.U.T.D. AND EQUIPPED WITH OPERATING TYPE 'C' FLASHERS.
  - \* DRUMS ARE TO BE U.V. RESISTANT, LOW DENSITY, IMPACT RESISTANT POLYETHYLENE.
  - \* REFLECTORIZED SHEETING IS TO BE OF AN APPROVED ORANGE AND WHITE TYPE IV SHEETING CONFORMING TO M.9.30.0
  - \* MINIMUM WALL THICKNESS IS TO BE 3/32"
  - \* MINIMUM DRUM DIAMETER SHALL BE 18"
  - \* DRUMS SHALL BE APPROXIMATELY 36" IN HEIGHT
  - \* ALL DRUMS SHALL BE MAINTAINED AND WHEN IT LOSES ITS TARGET VALUE (INCLUDING DUST BUILD-UP) IT IS TO BE REPLACED.
  - \* ALL DRUMS ARE TO BE EQUIPPED WITH BASES THAT DO NOT DETACH WHEN THE DRUM IS DRAGGED AND EACH DRUM IS TO BE PROPERLY WEIGHTED TO FULLY RESIST 65 MPH WIND CONDITIONS.
- THE 'RC' AND 'D' TYPE DRUM LOCATIONS THAT ARE SHOWN ON THESE PLANS DEPICT THE MINIMUM NUMBER OF RESPECTIVE PERIMETER DRUMS THAT MUST BE INITIALLY PLACED 'AT THE READY' TO CONTROL THE TRAFFIC FOR THAT SECTION OF ROADWAY WHICH IS ACTIVELY UNDER CONSTRUCTION. HOWEVER, THE NUMBER, TYPE & LOCATION OF DRUMS MAY VARY AS THE ENGINEER DEEMS NECESSARY, AND ONLY WHEN THE ENGINEER DIRECTS ARE THESE DRUMS BE MOVED TO THEIR NEW 'AT THE READY' LOCATIONS WITHIN THE SAME PROJECT ZONE, AND ONCE RELOCATED THEY ARE NOT TO BE MOVED FROM THAT RE-POSITIONED LOCATION UNTIL DIRECTED TO DO SO.
- \* AT THE BEGINNING OF EACH WORKDAY, AND/OR AS OTHERWISE DIRECTED THROUGHOUT THE COURSE OF THE WORKDAY, THE CONTRACTOR IS TO ESTABLISH AND MAINTAIN A WELL MARKED DETOUR ROUTE, AND IS TO FURTHER COORDINATE THIS EFFORT WITH THE ON-SITE POLICE DETAILS. ALL DETOUR ROUTES SHALL TAKE INTO CONSIDERATION BUS STOPS, BUS AND TRUCK TRAFFIC, SCHOOL CROSSINGS, BUSINESS TRAFFIC, ETC., AND ARE TO BE ESTABLISHED SO AS TO HAVE THE LEAST ADVERSE IMPACT ON THE AREA.
  - \* 'RC' & 'D' TYPE ARE TO COMPLY WITH ALL DIRECTIVES LISTED FOR 'STANDARD TYPE' IN ADDITION TO THE FOLLOWING SPECIAL INSTRUCTIONS:
  - \* DRUMS ARE TO BE ESTABLISHED FOR EACH PHASE AT EACH INTERSECTION PER THE ACCOMPANYING LOCUS PLAN, OR AS DIRECTED, AND ARE NOT TO BE REMOVED FROM THE DESIGNATED INTERSECTIONS FOR THE ENTIRE TERM OF THE PHASE BUT ARE TO BE LEFT 'AT THE READY' FOR IMMEDIATE ACCESS AND USE.
  - \* THE REMOVABLE BOTTOMS OF SUCH DRUMS ARE TO BE PERMANENTLY ATTACHED TO THE DRUM ITSELF SUCH THAT THE BASE WILL NOT SEPARATE FROM THE DRUM WHEN IT IS DRAGGED BUT YET WILL BREAK FREE IF HIT. FASTENERS ARE TO BE LIGHT DUTY. 'TIRE TYPE' WEIGHTS MAY BE USED IN LIEU OF FASTENED BOTTOMS.
  - \* DRUMS ARE TO BE MOVED INTO AND OFF OF THE ROADWAY AS NECESSARY AND/OR AS DIRECTED, WHILE FULL SITE REMOVAL WILL BE AT THE DISCRETION OF THE ENGINEER.
  - \* ONE SIGN IS TO BE PERMANENTLY FASTENED TO THE DRUM.
  - \* SIGNS ARE TO BE ATTACHED TO THE DRUM WITH 3/8" HEAVY DUTY NUT, BOLT, AND FENDER WASHER FASTENERS WITH A MINIMUM OF FOUR EQUALLY SPACED FASTENERS PER SIGN.
  - \* THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING DAILY DETOURS TO THE SATISFACTION OF THE ENGINEER.



DAILY BROOMING AND DAILY DUST CONTROL MEASURES  
NOTE: DUST CONDITIONS WILL NOT BE TOLERATED



**TYPICAL ROADWAY TRENCH REPAIR & PAVEMENT SECTION**

(NOT TO SCALE)